

DOCUMENTATION OF ENVIRONMENTAL INDICATOR DETERMINATION

Interim Final 2/5/99

Revised 9/20/02

RCRA Corrective Action
Environmental Indicator (EI) RCRA Info code (CA725)
Current Human Exposures Under Control

Facility Name: Former Electrolux Facility
Facility Address: 601 East Central Street, Jefferson, Iowa 50129
Facility EPA ID #: IAD047055140

DETERMINATION RESULT: YE

1. Has **all** available relevant/significant information on known and reasonably suspected releases to soil, groundwater, surface water/sediments, and air, subject to RCRA Corrective Action (e.g., from Solid Waste Management Units (SWMU), Regulated Units (RU), and Areas of Concern (AOC)), been **considered** in this EI determination?

 X If yes - check here and continue with #2 below.

 If no - re-evaluate existing data, or

 if data are not available skip to #6 and enter "IN" (more information needed) status code.

BACKGROUND

The site is 20.75 acres. Approximately 7.5 acres of the 20.75 acres were used for manufacturing operations. The site was developed in 1960 to manufacture dishwasher motor transmissions. Solvents and oils were used as part of the manufacturing process. EPA was notified that hazardous waste solvents were used and generated at the facility. The facility operated from 1960 to March of 2011. In March of 2011, Electrolux closed the facility, decommissioned and removed the manufacturing equipment and other items from the facility buildings and then demolished and disposed of the buildings. The concrete building slabs, parking areas, and sidewalks are the only structures that remain in place. Following demolition and disposal of the buildings, a chain-link fence was installed around the entire perimeter of the former manufacturing area to prevent access. Electrolux then commissioned Golder Associates to review the site history and to investigate the site for potential environmental impacts. Trichloroethylene (TCE) and other volatile organic compounds and oils were discovered in the soil and groundwater at and beneath the site. Between 2011 and October 2016, Golder Associates submitted several reports and other documents containing information about the contamination found at the former Electrolux facility. [See Soil and Groundwater Assessment Addendum NO. 2 dated January 2014 and Site Summary Report dated October 2016]

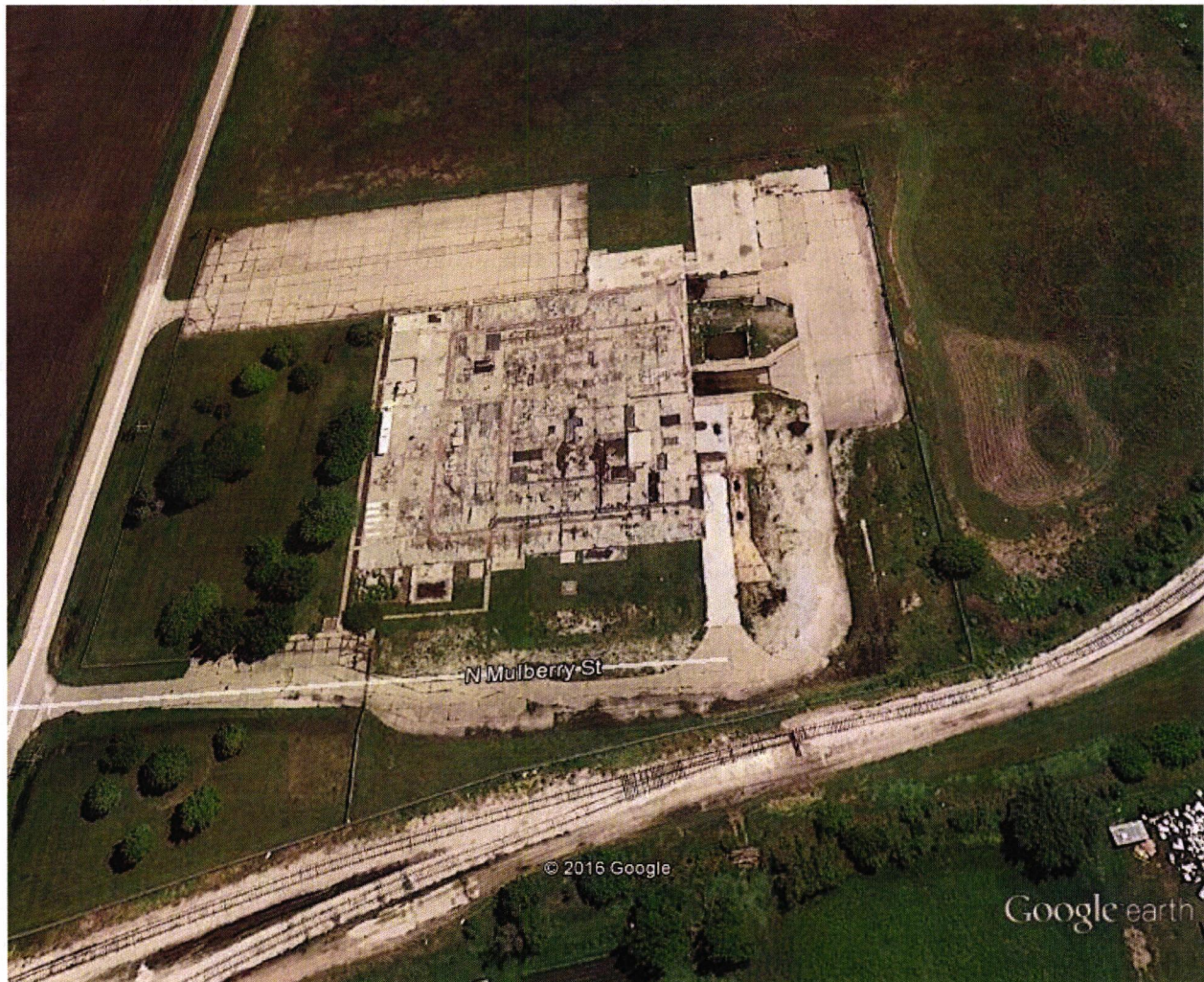
Below are a few Google views taken of the facility.

RCRA 12/7/2016



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Google earth

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Definition of Environmental Indicators (for the RCRA Corrective Action)

Environmental Indicators (EI) are measures being used by the RCRA Corrective Action program to go beyond programmatic activity measures (e.g., reports received and approved, etc.) to track changes in the quality of the environment. The two EI developed to-date indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. An EI for non-human (ecological) receptors is intended to be developed in the future.

Definition of “Current Human Exposures Under Control” EI

A positive “Current Human Exposures Under Control” EI determination (“YE” status code) indicates that there are no “unacceptable” human exposures to “contamination” (i.e., contaminants in concentrations in excess of appropriate risk-based levels) that can be reasonably expected under current land- and groundwater-use conditions (for all “contamination” subject to RCRA corrective action at or from the identified facility (i.e., site-wide)).

Relationship of EI to Final Remedies

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While Final remedies remain the long-term objective of the RCRA Corrective Action program the EI are near-term objectives which are currently being used as Program measures for the Government Performance and Results Act of 1993, GPRA). The “Current Human Exposures Under Control” EI are for reasonably expected human exposures under current land- and groundwater-use conditions ONLY, and do not consider potential future land- or groundwater-use conditions or ecological receptors. The RCRA Corrective Action program’s overall mission to protect human health and the environment requires that Final remedies address these issues (i.e., potential future human exposure scenarios, future land and groundwater uses, and ecological receptors).

Duration / Applicability of EI Determinations

EI Determinations status codes should remain in RCRA Info national database ONLY as long as they remain true (i.e., RCRA Info status codes must be changed when the regulatory authorities become aware of contrary information).

2. Are groundwater, soil, surface water, sediments, or air **media** known or reasonably suspected to be “contaminated”¹ above appropriately protective risk-based “levels” (applicable promulgated standards, as well as other appropriate standards, guidelines, guidance, or criteria [e.g., Maximum Contaminant Levels (MCLs), the maximum permissible level of a contaminant in water delivered to any user of a public water system under the Safe Drinking Water Act] from releases subject to RCRA Corrective Action (from SWMUs, RUs, or AOCs)?

Media	Yes	No	?	Rationale/Key Contaminants
Groundwater	X			TCE in gw as high as 302,000 ug/l and other VOCs and oil
Air (indoors) ²		X		
Surface Soil (e.g., <2 ft)	X			TCE in soil as high as 77 ug/kg, and other VOCs and oil
Surface Water		X		
Sediment		X		
Subsurf. Soil (e.g., >2 ft)	X			TCE in soil as high as 215,000 ug/kg and other VOCs and oil
Air (outdoors)		X		

¹ “Contamination” and “contaminated” describes media containing contaminants (in any form, NAPL and/or dissolved, vapors, or solids, that are subject to RCRA) in concentrations in excess of appropriately protective risk-based “levels” (for the media, that identify risks within the acceptable risk range).

²Recent evidence (from the Colorado Dept. of Public Health and Environment, and others) suggest that unacceptable indoor air concentrations are more common in structures above groundwater with volatile contaminants than previously believed. This is a rapidly developing field and reviewers are encouraged to look to the latest guidance for the appropriate methods and scale of demonstration necessary to be reasonably certain that indoor air (in structures located above (and adjacent to) groundwater with volatile contaminants) does not present unacceptable risks.

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- _____ If no (for all media) - skip to #6, and enter "YE," status code after providing or citing appropriate "levels," and referencing sufficient supporting documentation demonstrating that these "levels" are not exceeded.
- ___X___ If yes (for any media) - continue after identifying key contaminants in each "contaminated" medium, citing appropriate "levels" (or provide an explanation for the determination that the medium could pose an unacceptable risk), and referencing supporting documentation.
- _____ If unknown (for any media) - skip to #6 and enter "IN" status code.

Rationale and Reference(s):

TCE is the main contaminant of concern at the site. There are TCE degradation contaminants and other VOCs and oil in the soil and groundwater.

Supplemental Soil and Groundwater Assessment dated September 2012, Table 8, Soil boring 15 yielded a soil sample from the 13 to 15 foot interval below ground surface that contained TCE at 215,000 ug/kg. The residential soil screening level is 940 ug/kg. The industrial soil screening level is 6,000 ug/kg. The leach to groundwater screening level is 1.8 ug/kg.

Soil and Groundwater Investigation Report dated May 13, 2011, Table 4, MW-20 yielded a soil sample from the 0 to 2.5 foot interval that contained TCE at 77 ug/kg. The residential soil screening level is 940 ug/kg. The industrial soil screening level is 6,000 ug/kg. The leach to groundwater screening level is 1.8 ug/kg.

Soil and Groundwater Assessment Addendum NO. 2 dated January 2014, Table 5, MW 19 yielded groundwater containing TCE at 302,000 ug/l. The EPA MCL is 5ug/l.

There are no indoor air or outdoor air concerns as the facility is vacant and there are no buildings currently present on the property nor are there any ongoing operations at the site and all the contamination is on-site. There is no surface water or sediment on-site. [See Soil and Groundwater Assessment Addendum NO. 2 dated January 2014 and Site Summary Report dated October 2016]

3. Are there **complete pathways** between "contamination" and human receptors such that exposures can be reasonably expected under the current (land- and groundwater-use) conditions?

Summary Exposure Pathway Evaluation Table							
"Contaminated" Media	Residents	Workers	Day-Care	Construction	Trespassers	Recreation	Food ³
Groundwater	Yes	No	No	No	No	No	No
Air (indoors)							
Soil (surface, e.g., <2 ft)	No	No	No	No	Yes	No	No
Surface Water							

³Indirect Pathway/Receptor (e.g., vegetables, fruits, crops, meat and dairy products, fish, shellfish, etc.)

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Summary Exposure Pathway Evaluation Table							
Sediment							
Soil (subsurface e.g., >2 ft)	No	No	No	No	No	No	No
Air (outdoors)							

Instructions for Summary Exposure Pathway Evaluation Table:

1. Strike-out specific Media including Human Receptors' spaces for Media which are not "contaminated") as identified in #2 above.
2. enter "yes" or "no" for potential "completeness" under each "Contaminated" Media -- Human Receptor combination (Pathway).

Note: In order to focus the evaluation to the most probable combinations some potential "Contaminated" Media - Human Receptor combinations (Pathways) do not have check spaces ("___"). While these combinations may not be probable in most situations they may be possible in some settings and should be added as necessary.

- _____ If no (pathways are not complete for any contaminated media-receptor combination) - skip to #6, and enter "YE" status code, after explaining and/or referencing condition(s) in-place, whether natural or man-made, preventing a complete exposure pathway from each contaminated medium (e.g., use optional Pathway Evaluation Work Sheet to analyze major pathways).
- ___X___ If yes (pathways are complete for any "Contaminated" Media - Human Receptor combination) - continue after providing supporting explanation.
- _____ If unknown (for any "Contaminated" Media - Human Receptor combination) - skip to #6 and enter "IN" status code

Rationale and Reference(s):

The facility is vacant and there are no buildings currently present on the property nor is there any ongoing operations at the site and all the contamination is on-site. There are no drinking water wells on-site. There is only a potential pathway if a drinking water supply well was installed on-site. Thus, there is virtually no potential for exposure to subsurface soils given the current land and groundwater use conditions. [See Soil and Groundwater Assessment Addendum NO. 2 dated January 2014 and Site Summary Report dated October 2016]

4. Can the **exposures** from any of the complete pathways identified in #3 be reasonably expected to be "**significant**"⁴ (i.e., potentially "unacceptable" because exposures can be reasonably expected to be: 1) greater in magnitude (intensity, frequency and/or duration) than assumed in the derivation of the acceptable "levels" (used to identify the "contamination"); or 2) the combination of exposure magnitude (perhaps even

⁴If there is any question on whether the identified exposures are "significant" (i.e., potentially "unacceptable") consult a human health Risk Assessment specialist with appropriate education, training and experience.

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though low) and contaminant concentrations (which may be substantially above the acceptable “levels”) could result in greater than acceptable risks)?

☒ X If no (exposures can not be reasonably expected to be significant (i.e., potentially “unacceptable”) for any complete exposure pathway) - skip to #6 and enter “YE” status code after explaining and/or referencing documentation justifying why the exposures (from each of the complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

☐ If yes (exposures could be reasonably expected to be “significant” (i.e., potentially “unacceptable”) for any complete exposure pathway) - continue after providing a description (of each potentially “unacceptable” exposure pathway) and explaining and/or referencing documentation justifying why the exposures (from each of the remaining complete pathways) to “contamination” (identified in #3) are not expected to be “significant.”

☐ If unknown (for any complete pathway) - skip to #6 and enter “IN” status code

Rationale and Reference(s):

It is possible for trespassers to climb the fence and enter the vacant property that has no buildings and where there is no current ongoing operations. There has been no evidence of trespassers since installation of the fence in 2011, nor any prior to 2011. Most of the surface soil contamination is underneath the old concrete building pads. Given the site control and conditions, exposure to contamination by a trespasser cannot reasonably be expected to be significant. [See Soil and Groundwater Assessment Addendum NO. 2 dated January 2014 and Site Summary Report dated October 2016]

TCE has been detected in the groundwater as high as 302,000 ug/l, which is above the EPA MCL of 5 ug/l. All groundwater contamination is located on-site. The site is vacant, has no buildings, and has no ongoing operations. There are no private water supply wells on-site or within 8/10 of a mile of the site that is used for the consumption of water. However, there are several municipal water supply wells located approximately 8/10 of a mile to the south/southwest of the site that provides water to the City of Jefferson, Iowa. No detections of TCE or other VOC contaminants or oil that have been found at the site have been found in any of the municipal water supply wells located approximately 8/10 of a mile away. The site likely falls within the 15 year capture zone of these municipal water supply wells. The facility began operations in 1960. The RCRA regulations governing the collection, storage, treatment, and disposal of TCE and other solvent waste became effective approximately 1980. Again the facility was operated from 1960 until 2011. Electrolux asserts that it never operated a RCRA hazardous waste treatment, storage, or disposal facility at the site. Electrolux asserts that TCE and other waste solvents were only generated and stored at the site prior to off-site disposal. Electrolux asserts that it does not know of any areas where releases of TCE or other solvents have occurred at the site. Regulations were in place governing the collection, storage, treatment and disposal of TCE and other solvents as of approximately 1980, so it is likely that the contamination in the soil and groundwater happened prior to 1980 but after 1960 when the facility began operations. The site is underlain by approximately 100 ft of silty/clayey till. The groundwater contamination on-site is situated/contained in the approximately 100 ft of silty/clayey till. Below the silty clayey till is the Pleistocene sands and gravels. The City of Jefferson obtains its water from the municipal water supply wells completed in the Pleistocene sands and gravels. It is likely that the contamination found at the site occurred before 1980. Thus, since 1980, or in the last 35 years, the on-site groundwater contamination has not migrated into the Pleistocene sands and gravels aquifer. The lower portions of the silty/clayey till have a very low hydraulic conductivity. Thus, the silty/clayey till appears to be an aquitard. Given that contamination has not migrated into the Pleistocene sands and gravels aquifer in the last 35 years, it cannot reasonably be expected to migrate there in the near future. In sum, the groundwater contamination

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cannot be reasonably expected to be a significant exposure concern in the near future. [See Request for Information Response dated December 5, 2011, Soil and Groundwater Assessment Addendum NO. 2 dated January 2014, and Site Summary Report dated October 2016]

5. Can the "significant" **exposures** (identified in #4) be shown to be within **acceptable** limits?

- _____ If yes (all "significant" exposures have been shown to be within acceptable limits) - continue and enter "YE" after summarizing and referencing documentation justifying why all "significant" exposures to "contamination" are within acceptable limits (e.g., a site-specific Human Health Risk Assessment).
- _____ If no (there are current exposures that can be reasonably expected to be "unacceptable")- continue and enter "NO" status code after providing a description of each potentially "unacceptable" exposure.
- _____ If unknown (for any potentially "unacceptable" exposure) - continue and enter "IN" status code

Rationale and Reference(s):

6. Check the appropriate RCRA Info status codes for the Current Human Exposures Under Control EI event code (CA725), and obtain Supervisor (or appropriate Manager) signature and date on the EI determination below (and attach appropriate supporting documentation as well as a map of the facility):

- X YE - Yes, "Current Human Exposures Under Control" has been verified. Based on a review of the information contained in this EI Determination, "Current Human Exposures" are expected to be "Under Control" at the Former Electrolux facility, EPA ID # IAD047055140, located at 601 East Central Street, Jefferson, Iowa, under current and reasonably expected conditions. This determination will be re-evaluated when the Agency/State becomes aware of significant changes at the facility.
- _____ NO - "Current Human Exposures" are NOT "Under Control."
- _____ IN - More information is needed to make a determination.

Completed by

Brian Mitchell
(signature)

Date

11/22/16

Brian Mitchell

Project Manager, RCRA Corrective Action & Permits Branch
EPA Region 7

Supervisor

Don Lininger
(signature)

Date

12/7/16

Don Lininger

Branch Chief, RCRA Corrective Action & Permits Branch
EPA Region 7

Locations where References may be found:

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EPA Region 7 Headquarters
RCRA Files
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FINAL NOTE: THE HUMAN EXPOSURES EI IS A QUALITATIVE SCREENING OF EXPOSURES AND THE DETERMINATIONS WITHIN THIS DOCUMENT SHOULD NOT BE USED AS THE SOLE BASIS FOR RESTRICTING THE SCOPE OF MORE DETAILED (E.G., SITE-SPECIFIC) ASSESSMENTS OF RISK.

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REFERENCES

Identified in the sections above.

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